S/PDIF/USB DAC/preamp & monoblock power amps. Rated at 250W
Made by: IAG Group Ltd, PRC
Supplied by: Audiolab, Cambs
Telephone: 01480 447700
Web: www.audiolab.co.uk

AUDIO FILE

Audiolab M-DAC/8200MB

(£600/£1000 each)

With filters galore and a wealth of user-info wedded to some solid-state brawn, this new DAC/preamp and partnering monoblocks forms the heart of a powerful system

Review: **Andrew Simpson** Lab: **Paul Miller**

Twenty years is a long time to wait before releasing your replacement model, but this is what Audiolab says it's done with the M-DAC, which advances what the 8000DAC began way back in 1992. In truth though, the new M-DAC is far more than an improved 8000, and its origins actually stem from a design its creator John Westlake brought with him, when he joined Audiolab and its parent company IAG.

With so many DACs hitting the market in recent times, each new model needs to offer something extra over the competition if it's to get noticed. What the Audiolab majors on is giving the user more information – and thus control – over the music flowing through it.

But let's first get through the usual checklist of what the DAC offers, which includes variable output as well as fixed, enabling it to be used as a preamp to drive power amps directly. Its coaxial (S/PDIF) inputs support incoming data rates up to 24-bit/192kHz, while its optical (S/PDIF) and asynchronous USB inputs support incoming data up to 24-bit/96kHz. We're told that a standalone upgrade PSU is in the pipeline, which will also sport an analogue variable output for the M-DAC, improving on its internal digital volume control.

The M-DAC boasts 26 internally regulated supply rails and a JFET Class A output stage. At its heart lies the same ES9018S Sabre Reference 32-bit DAC chip, from ESS, that we recently saw in Oppo's BDP-95EU universal player [*HFN* May '12] and which John Westlake helped develop.

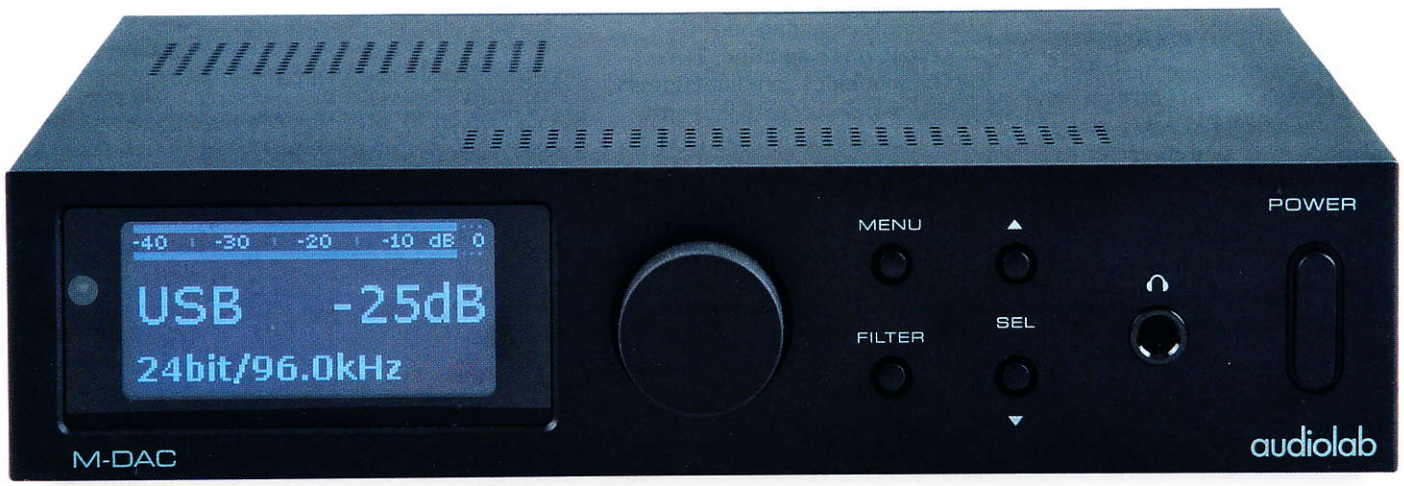
'I've always been a believer in discrete DACs and worked with the earlier 9008 version,' he explains. 'My feedback on this was then used to develop the 9018.'

TOUGH AS THE TERMINATOR

It was an obvious step to partner it with the company's new 8200MB monoblocks to get the full Audiolab experience. These minimalist powerhouses go back to Audiolab's days under TAG McLaren ownership [see p114] – specifically TAG's 250MR monoblocks, upon which the Audiolab amps seem to be closely based. Given that the TAGs cost £2k each a decade ago, the new 8200MBs seem very good value at half that today. Their industrially sleek matt-black boxes and red LEDs may resemble something out of *The Terminator*, but as with Arnie's cyborg alter-ego, they look indestructible. Under each amp's lid reside six Sanken power transistors. They also use automatic signal sensing circuitry instead of an on/off switch, and when in this mode will only power up when the music is forthcoming.

Incidentally, the DAC's wand-like remote is worthy of praise because, as well as controlling the DAC, it can also be used to pause/skip/select audio from a computer, streaming through the USB input.

Setting up the DAC together with the 8200MB monoblocks, I began to explore its menu. While its interface is easy to use, you will need the manual to fully understand all of the options the M-DAC offers. Firstly, there are various display options allowing you to view, for example, the *actual* (rather than nominal) incoming sampling rate, the incoming level, time and track number from the source, and the M-DAC's output level (in dB). With the M-DAC set to its USB input, you can also usefully view the buffer state of the incoming stream.



BELOW: The legible screen offers ample info through various display modes chosen via the rotary knob. A button toggles through seven digital filter options. Note headphone output

LEFT: Shoe-boxed sized monoblock looks sleek with its brushed 6mm-thick faceplate and non-magnetic alloy case. Also available in silver

The manual advises using foobar software for computer streamed audio, and details how to install different drivers within foobar's components menu, to help bypass various PC operating systems' internal mixers.

Running Vista, I first installed a WASAPI driver into foobar; however this caused the buffer level on the M-DAC's screen to drop unacceptably. So instead I removed the driver, disabled my PC's enhancements and set the output to the music's native resolution, which stabilised the buffer level and gave the best audio results in my system.

As well as seven digital filters [see the Ed's boxout, below], the M-DAC also employs Audiolab's optional 'D3E Digital Data Decorrelation Engine' which offers partial or full suppression modes. These settings claim to correlate empty bits of data when, for example, the 32-bit converter is presented with 24-bit data. In normal circumstances a DAC will still attempt to process the eight null bits; Audiolab's D3E Decorrelator, however, claims to cancel out the bits that present no data, leaving the DAC to focus on those remaining bits intended for conversion.

> 'The presentation was also blessed with an air of delicacy'

EASY ON THE EAR

Serious listening began with a WAV file of REM's 1996 album *New Adventures In Hi-Fi* [Warner 9362-46320-2] especially the opening track 'How The West Was Won And Where It Got Us'. Despite this being ripped from a standard CD at 16-bit/44.1kHz, the quality of the recording allowed me to get the measure of how the DAC's filters influence its sound. Of the seven options, Minimum Phase, Optimal Transient and its XD variant were the three most rewarding sonically and the ones I used the most.

Listening to the REM track in Optimal Transient mode, the Audiolab combination presented an impressively wide soundstage with plenty of detail, that was easy on the ear. The XD variant seemed to narrow the soundstage slightly, while trading-in a subtle degree of warmth for extra clarity. And Minimum Phase seemed to enhance the music's atmospherics, emphasising reverb and echo, which might benefit music that plays to this effect (P J Harvey's *White Chalk* album being an obvious example). However, each of these settings will pose different merits depending on the character of your listening room, partnering kit and musical tastes. And being able to switch between them with the music playing allows for you to make constant cross-comparisons.

BUT DO WE NEED ALL SEVEN?

In the remaining settings, the REM track seemed to lose its musicality in Transient DD mode and the instruments didn't seem to gel as well as they had previously. The Rolloff settings seemed to harden up the treble and Optimal Spectrum sounded more sterile than the other Optimal settings. It's worth noting, though, that even the manual implies that some of these filters are for comparison purposes only, but their inferior sound in relation to the others does raise the question: why include them at all?

So with my preferred filter choice, as soon as Mike Mill's bass guitar kicked in, I knew I was in the presence of refined solid-state amplification. The 8200s got on with the task by demonstrating what well implemented transistor technology does best: plough the lower depths with authority – this was bass that I could *feel* as well as hear.

Thankfully, despite all the power on tap, the Audiolabs' presentation was also blessed with an air of delicacy and I wasn't being pummelled with everything they could throw at me. Instead, the sound was measured, so while the music had plenty ⇨

FILTER FRENZY

Audiolab's choice of Sabre's top '32-bit' ESS DAC might lie at the heart of the M-DAC, but it's *your* selection of its seven bespoke filter algorithms that will spice-up the sound. The Optimal and Sharp filters are more conventional FIR types, the impulses showing both pre and post-ringing (the former least subjectively desirable) but with Optimal cutting-off slight early beyond 19kHz to reach –3.4dB/20kHz and achieve a superior rejection of alias distortions (–92dB vs. –83dB). The other five filters are optimised for transient performance and show little or no acausal (cause before effect) pre-ringing at the expense of poorer HF extension and poorer rejection of alias distortions. The Slow filter is akin to the old Pioneer Legato Link regime, trading limited pre/post-ringing for a gradual roll-off (–1dB/17kHz and –3dB/20kHz) and poor –5.7dB alias rejection. Minimum Phase shows exclusively post-ringing (with increased phase distortion) and a –1.1dB/20kHz roll-off. The Optimal Transient, Transient XD and DD filters all boast zero pre/post-ringing and the same gentle –1dB/12kHz to –3.2dB/20kHz treble roll-off but with no rejection of alias images. These will be the preferred filters with 96kHz+ media where aliasing is pushed well outside of the audioband. With CD/48kHz media I'd recommend the Optimal filter. PM

ABOVE: Balanced (XLR) and single-ended (RCA) analogue output sockets sit alongside two S/PDIF inputs (coaxial and optical), a pair of S/PDIF outputs, USB and remote control integration connections. Power is supplied by a dedicated AC adapter

of pizzazz it was never draining, no matter how long I listened.

The way the Audiolabs handled the hard-edged electric guitars and the constant whirring synthesizer of 'Leave' from the REM album demonstrated how well this pairing works as a cohesive whole. Despite the mix being full of competing sounds coming from all directions, the Audiolabs kept everything under control and allowed me to hear into the mix rather than feel I was bombarded by its components.

NAILING THE PACE

Backing off the throttle with the softer, simpler sound of a 96kHz/24-bit WAV version of John Gorka's *The Gypsy Life* album [AIX Records 83053] shone a spotlight on how the DAC's filters can be called upon to suit the occasion. The sung narrative and gentle pianos of 'Houses In The Fields' were best portrayed in XD mode, which gave greater focus to the instruments and ensured that the sentiment of John's voice got my full attention. The imaging was convincingly holographic – not only could I hear each finely plucked twang of Gorka's guitar, I could also place his instrument within the intimate setting the Audiolabs had created.

Feeding the DAC's coaxial input a diet of INXS's 1985 polished rock album *Listen Like Thieves* [Mercury 824 957-2] via my CD player's S/PDIF output really opened up the mix, especially when switching back to 'Optimal Transient' mode. The percussion in particular sounded layered and spread deep into the soundstage, bringing unexpected scale to the music. The Audiolab system nailed the fast pace of this track with solid-state precision. The lack of overhang in the cymbals, and the way the lucid funky rhythm guitar revved the track along was invigorating. Cranking up the volume filled the music with an energy that was hard to resist.

This Audiolab DAC/monoblock pairing combines real musical power, control and clarity in a smooth sounding package. Out of the box the M-DAC is impressive, but tweaking the settings to your personal tastes is akin to sprinkling your preferred seasoning over an already appetising meal, to make it *really* delicious.

ABOVE: Quality speaker cable terminals join an XLR and single-ended input. Three-way sensitivity switch keeps the amp in standby mode until it senses audio or 12V trigger via 3.5mm sockets

HI-FI NEWS VERDICT

Dedicated monoblocks and state-of-the-art DACs used to be the preserve of the wealthy, but through this combination of carefully selected technology and well executed design, Audiolab has shown that high-end hi-fi need not break the bank. For features and sound, the M-DAC is clearly excellent value. Partnering it with power amplifiers of this quality makes for an extremely capable combination.

Sound Quality: 84%

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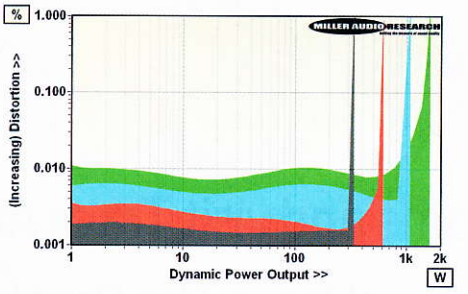
LAB REPORT

AUDIOLAB M-DAC/8200MB *(£2600)*

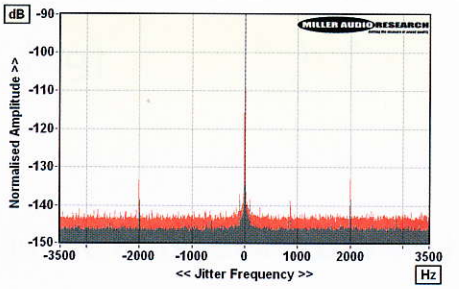
The 8200MB looks to be a modernised version of the old TAG McLaren 250MR monoblock. It's a clean and powerful performer, besting its 250W rating at 290W/475W into 8/4ohm loads and equipped with enough headroom to drive 336W, 620W, 1070W and 1610W into 8, 4, 2 and 1ohm loads under dynamic conditions [see Graph 1, below]. Distortion is low and impressively consistent with power at ~0.0012% through the midrange from 1W to 250W, increasing gently with frequency to 0.005% at 5kHz and 0.02% at 20kHz. Noise is low and the A-wtd S/N ratio very wide (91dB re. 0dBW) while the response is deeply extended into the sub-bass (–0.02dB/1Hz) and well-damped by its 0.028ohm output impedance.

The partnering M-DAC offers an astonishingly good technical performance, with near-identical figures for both S/PDIF and the asynchronous USB 1.0 inputs up to 24-bit/96kHz (to 192kHz via S/PDIF). The balanced XLRs provide a maximum 4.5V output from a vanishingly low 0.25ohm source impedance (this 'pre' will drive *very* long interconnects) with distortion just ~0.0009% at all frequencies at 0dBFs. This drops as low as 0.00008% between –10dBFs and –30dBFs. Jitter is vanishingly low at <20psec all inputs/all rates [see Graph 2] while the S/N is extremely wide at 114dB (S/PDIF and USB). The response, time domain behavior and stopband rejection is entirely determined by the choice of digital filter [see box out, p33].

Readers can download full QC Suite test reports for the Audiolab M-DAC (including every filter permutation) and 8200MB amplifier by navigating to *www.hifinews.co.uk* and clicking on the red 'download' button. **PM**



ABOVE (8200MB): Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



ABOVE (M-DAC): High resolution 24-bit/48kHz jitter spectra comparing S/PDIF (black) with USB 1.0 (red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	290W / 475W
Dynamic power (<1% THD, 8/4/2/1ohm)	336W / 620W / 1.07kW / 1.6kW
Distortion (20Hz-20kHz, 10W/8ohm)	0.0002–0.021%
Distortion (M-DAC, 20Hz-20kHz, 0dBFs)	0.00085–0.00095%
Freq. resp. (20Hz-20kHz, M-DAC/8200MB)	+0.0 to –0.09dB/+0.0 to –0.07dB
A-wtd S/N ratio (M-DAC/8200MB)	114.1dB @ 0dBFs/91.0dB @ 0dBW
Digital jitter (S/PDIF / USB)	18psec / 10psec
Power consumption (M-DAC/8200MB)	15W / 21W idle / 400W rated op
Dimensions (WHD, M-DAC/8200MB)	250x59x252 / 216x150x379mm